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Appendix I
The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Bureau of Environmental Health Assessment
250 Washington Street, Boston, MA 02108-4619

February 4, 2002

Jeanmarie Joyce, Health Agent
Hanover Board of Health
550 Hanover Street
Hanover, MA 02339

Dear Ms. Joyce:

At your request, the Bureau of Environmental Health Assessment (BEHA) conducted an evaluation of the indoor air quality at the Hanover Middle School on January 11, 2002. Michael Feeney, Chief of Emergency Response/Indoor Air Quality (ER/IAQ), BEHA, conducted this inspection. During the reevaluation of the building, BEHA staff learned that the library section of the building had suffered significant water damage from a frozen coil in the rooftop air-handling unit (AHU). In an effort to remediate this water damage, a contractor was hired (ServiceMaster, Inc.). The contractor had multiple carpet drying fans in place and had cut holes in interior walls to aid in drying of materials. During this reassessment, musty odors were still detected in the hallway outside the library. In an effort to limit possible health effects from exposure as well as the spread of microbial contamination to other parts of the building, the following remedial steps are recommended:

1. Limit teacher, staff and student access to the library until water damage remediation is completed.
2. Seal all hallway doors that lead to the library with polyethylene plastics sheets and duct tape.
3. Maximize the exhaust ventilation for the rooftop AHU servicing the library.
4. Seal all fresh air supply vents in classrooms that are connected to the AHU servicing the library with polyethylene plastic sheets and duct tape. Library fresh air supply vents should also be sealed with polyethylene plastic sheets and duct tape.
5. Open hallway doors for classrooms are connected to the AHU servicing the library and use floor fans to introduce air from hallways until water damage remediation is completed.

6. Open hallway doors to exterior wall classrooms that have unit ventilators to introduce fresh air into the hallway.
7. Reduce air draw of exhaust vents in classrooms that have unit ventilators to prevent draw of air from the hallways.

Each of these measures should prevent fungal spores from entering adjacent occupied areas. Since remediation may include carpet removal and other renovation activities, the following general recommendations which should be followed on any renovation effort:

1. Establish communications between all parties involved with building renovations to prevent potential IAQ problems. Develop a forum for occupants to express concerns about renovations as well as a program to resolve IAQ issues.

2. Develop a notification system for building occupants immediately adjacent to construction activities to report construction/renovation related odors and/or dusts problems to the building administrator. Have these concerns relayed to the contractor in a manner to allow for a timely remediation of the problem.

3. When possible, schedule projects which produce large amounts of dusts, odors and emissions during unoccupied periods or periods of low occupancy.

4. Disseminate scheduling itinerary to all affected parties, this can be done in the form of meetings, newsletters or weekly bulletins.

5. Obtain Material Safety Data Sheets (MSDS) for all construction materials used during renovations and keep them in an area that is accessible to all individuals during periods of building operations as required by the Massachusetts Right-To-Know Act (MGL, 1983).

6. Consult MSDS' for any material applied to the effected area during renovation(s) including any sealant, carpet adhesive, tile mastic, flooring and/or roofing materials. Provide proper ventilation and allow sufficient curing time as per the manufacturer's instructions concerning these materials.

7. Use local exhaust ventilation and isolation techniques to control for renovation pollutants. Precautions should be taken to avoid the re-entrainment of these materials into the building's HVAC system. The design of each system must be assessed to determine how it may be impacted by renovation activities. Specific HVAC protection requirements pertain to the return, central filtration and supply components of the ventilation system. This may entail shutting down systems (when possible) during periods of heavy construction and demolition, ensuring systems are isolated from contaminated environments, sealing ventilation openings with plastic and utilizing filters with a higher dust spot efficiency where needed (SMACNA, 1995).

8. Seal utility holes, spaces in roof decking and temporary walls to eliminate pollutant paths of migration. Seal holes created by missing tiles in ceiling temporarily to prevent renovation pollutant migration.

9. If possible, relocate susceptible persons and those with pre-existing medical conditions (e.g., hypersensitivity, asthma) away from areas of renovations.

10. Implement prudent housekeeping and work site practices to minimize exposure to renovation pollutants. This may include constructing barriers, sealing off areas, and temporarily relocating furniture and supplies. To control for dusts, a high efficiency particulate air filter (HEPA) equipped vacuum cleaner in conjunction with wet wiping of all surfaces is recommended.

As noted, we suggest that these steps be taken on any renovation project within a public building. Please feel free to contact us at (617) 624-5757 if you are in need of further information or technical assistance.

Sincerely,

Suzanne Condon, Assistant Commissioner
Bureau of Environmental Health Assessment

cc/ Mike Feeney, Chief, Emergency Response/Indoor Air Quality
Michael Pregot, Superintendent, Hanover School Department
Edward Lee, Principal, Hanover Middle School

References

MGL. 1983. Hazardous Substances Disclosure by Employers. Massachusetts General Laws. M.G.L. c. 111F.

SMACNA. 1995. IAQ Guidelines for Occupied Buildings Under Construction. 1st ed. Sheet Metal and Air Conditioning Contractors' National Association, Inc., Chantilly, VA.